

## 03 INTEGERS

### ACTIVITY 1

#### GUESS THE BIRTHDAY DATE

This activity is based on the table you can see on the back.

As you can check, the chart has the numbers 1 to 31 many times and located in different places according to a trick.

The game is developed in this way:

First, you ask someone who thinks a number from 1 to 31 and write secretly the number so that you don't see it.

Then, you ask if the number is located on the first column.

In order to get the person read carefully all the numbers you would have to guide his reading pointing all the number from the top to the bottom.

After, you will do the same with the next column and so on until finish all of them.

That is, there are a total of five columns.

At this moment you are able to guess the hidden number. How?

If the answer to the first question is positive, that is the number is on the first column, you have to memorize 16 points, in the opposite way you don't add up anything.

If the answer to the second question is affirmative that means the number is on the second column and you have to add 8 points to the before account. In the opposite case you have to add nothing.

The punctuation for the third column is 4 points in a similar way, it is 2 points for the fourth column and 1 point for the fifth and last column.

And that's it.

The hidden number is the sum you get through the previous process.

The profound reason to his calculation is that the location of the numbers is according to the binary value for each number.

But you don't be afraid thinking that your friend will discover your trick because a wise quote says:

'There are only 10 kind of people those who know binary and those who don't know it'.

You can color each column in a different colour to improve the presentation and to identify better each of them.

25	31	21	26	13
29	15	5	10	7
22	9	12	6	3
19	11	15	14	15
16	14	7	3	1
31	10	14	15	5
26	13	6	11	9
17	12	13	7	11
20	8	30	27	31
27	24	31	22	29
30	28	23	30	27
21	25	4	31	25
18	30	20	18	23
23	26	29	19	21
28	27	22	2	19
24	29	28	23	17